

Title (en)
ELECTROACOUSTIC TRANSDUCER WITH PERIODIC FERROELECTRIC POLARIZATION PRODUCED ON A MICROMACHINED VERTICAL STRUCTURE

Title (de)
ELEKTROAKUSTISCHER WANDLER MIT PERIODISCHER FERROELEKTRISCHER POLARISATION AUF EINER MIKROGEFERTIGTEN VERTIKALERN STRUKTUR

Title (fr)
TRANSDUCTEUR ÉLECTROACOUSTIQUE À POLARISATION FERROÉLECTRIQUE PÉRIODIQUE RÉALISÉ SUR UNE STRUCTURE VERTICALE MICRO USINÉE

Publication
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Application
EP 12769653 A 20121005

Priority
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Abstract (en)
[origin: WO2013050521A1] A volume wave piezoelectric and ferroelectric transducer operating at a predetermined frequency f comprises a substrate block (4), having a first thickness e_1 and consisting of a first material, and a piezoelectric and ferroelectric transducer plate (6), having a length L , a width l and a second thickness e_2 , and consisting of a second piezoelectric material, a first and a second metal electrodes (12, 14) covering the piezoelectric transducer plate (6) in the lengthwise direction. The piezoelectric and ferroelectric transducer plate (6) comprises ferroelectric first domains and second domains (17, 18) with alternating polarizations, distributed in the lengthwise direction L of the plate in a periodic pattern of pitch p . The piezoelectric transducer plate (6) is fixed perpendicular to the substrate block (4) such that the width l of the piezoelectric transducer plate (6) and the first thickness e_1 of the substrate block (4) are in the same direction. The first material, the second material, the first thickness of the substrate block (4), the length L , the width l , the second thickness e_2 , the pitch p of the transducer plate (6) are configured for creating and trapping volume waves at the operating frequency of the transducer guided between the two electrodes (12, 14).

IPC 8 full level
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